RAINWATER BASIN WETLAND MANAGEMENT DISTRICT

Kearney, Nebraska

ANNUAL NARRATIVE REPORT

2004

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

Kearney, Nebraska

ANNUAL NARRATIVE REPORT

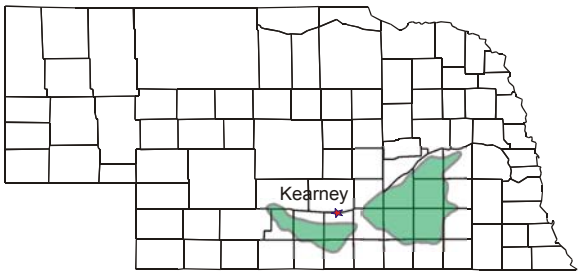
2004

Gene D. Mack **Project Leader**	**Date**	**David Wiseman** **Refuge Supervisor Review**	**Date**

Regional Office Approval	**Date**

INTRODUCTION

Originally, the Rainwater Basin (Basin) in south central Nebraska contained more than 3,900 wetland basins within a 17-county area. The Basin region covers 4,200 square miles of flat to gently rolling Peorial Loess Plains.



Wetland basins are generally large, shallow depressions with a deep clay layer in the wetland basin–creating an impervious water barrier. The name Rainwater Basin comes from the basins' ability to go from dry to flooded conditions quickly–following heavy rainstorms and snow melts. The rapid filling of the depressions in an intense agricultural environment causes siltation and poor water quality to be continual problems. Soils surrounding the basins are very fertile, consisting of heavy silt loams and silty clay. Several hundred feet below the surface lay the Ogallala Aquifer, which is the source of water for the extensive amount of irrigated corn and soybeans. Irrigation canals deliver water from the Platte River, lying north of the region, to irrigate the southwest portion of the region. Agricultural and rural development has destroyed 90 percent of the original number of wetlands.

The Fish and Wildlife Service began acquiring wetlands in 1963 with the purchase of Massie Waterfowl Production Area (WPA). By 1966, 7,000 acres were acquired and a management office was established in Hastings, Nebraska. In 1976, the office was moved to its present location: Kearney.

The Rainwater Basin Wetland Management District (WMD) currently manages 61 tracts of land, 59 of which are Waterfowl Production Areas (WPA) totaling 22,864 acres. One of the remaining two areas is McMurtrey Wildlife Management Area that was transferred from the military. Its 1052 acres are closed to public use. The other tract is the Platte River National Wildlife Management Area (438 acres), this property is owned by the state of Wyoming and managed through a memorandum of understanding. WPAs are small isolated tracts of land scattered throughout the District. Most WPAs contain only one large wetland. All WPAs are managed as a grassland ecosystem. Wetland management is focused toward providing optimum waterfowl and shorebird habitats. The uplands are managed for a high diversity of native tall and mid-grass plant species. This office manages thirty-eight FmHA conservation easements, totaling 2419.67 acres, as well.

Spring migration is the primary focus of the Rainwater Basin WMD. Each spring, about six million snow geese, one million Canada geese, 90 percent of the mid-continent white-fronted goose population, 5-7 million ducks, and one-half million Sandhill cranes use the Basin and Platte River. Habitat becomes very critical during this time of year. Extensive pumping and aggressive wetland management are done to maintain quality habitat for resting and staging. Huge concentrations of birds, in a limited number of wetlands, annually pose a threat of avian cholera outbreak.

In addition to habitat management on refuge lands, our office spends considerable staff and funds to restore wetland habitat on refuge and privately owned lands. Often, new refuge areas have the wetland drained and the upland farmed. Cost of restoration in some cases meets or exceeds the purchase price of the property. During 1991 to 1997, budget cuts and departmental reorganization reduced station staff by 44 percent and budget by 18 percent. During that same time period, land acquisition increased 25 percent and easements by 467 percent. The effect was large expansion of invasive plants, including noxious weeds and volunteer trees. Since 1997, our station has focused on

reducing weeds, trees, and shifting plant compositions toward high diversity native plant communities. Our station has also worked to build partnerships with other agencies and organizations to help us accomplish the mission of the Fish and Wildlife Service. Many of the partnerships have become possible through the work of the Rainwater Basin Joint Venture.

Station Mission:

To protect, restore and manage wetlands and prairie grassland habitat in support of the North American Waterfowl Management Plan; provide resting, nesting, feeding, and staging habitat for waterfowl and other migratory birds; protect endangered and threatened species and their habitats; restore the natural flora and fauna associated with tall-grass and mixed-grass prairie ecosystems; and increase public opportunities for outdoor recreation and environmental education.

Station Goals:

1. Enhance wetland habitat for migratory birds through proper use of ecological forces, including fire, grazing, rest, and drought.
2. Improve habitat for the propagation and protection of endangered and threatened species.
3. Protect wetlands through fee-title and easement acquisition, and coordination with other conservation programs, protect wetlands from degradation through drainage, erosion, siltation, and farming practices.
4. Reestablish native flora and bio diversity of tall-grass and mixed-grass prairie ecosystems through harvesting and reseeding of native plants..
5. Expand the Rainwater Basin Joint Venture to maintain, enhance, and create new partnerships that further the goals of the station.
6. Provide opportunities for public participation in a wide range of outdoor recreation and interpretation activities.

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A. HIGHLIGHTS

Listed below are accomplishments in fiscal year 2004. Note: If you are viewing this document within Microsoft Word, you can click on the symbol ※ to go directly to that item.

Planning

- Established baseline data of wetland vegetation on all WPAs
- ※ Establish a GIS shop for refuges in Nebraska, Kansas, and eastern Colorado
- Develop a prairie dog management plan, fire monitoring plan, and chronic wasting disease plan

Technical Assitance

- Provided Technical assistance in setting up Refuge Lands GIS for various refuges and state agencies

Habitat Management

- Wetland vegetation shredding
- Filling of pits on private land adjacent to Linder, Jones, Funk and Peterson
- Improving the drainage of watershed runoff to Peterson

Prairie Restoration

- Harvested 11,000 pounds of high diversity seed mix
- Provided seed to Boyer Chute NWR, Kirwin NWR, DeSoto NWR, LaCreek NWR, Nebraska Game and Parks, and Pheasants Forever
- ※ Established seedlings of various forbs in cooperation with NGPC and The Nature Conservancy

Invasive Species

- Improvements in control on serious trouble spots on Funk and Johnson WPAs
- Improved spraying efficiency with use of slip-in fire engines, water tender, and trailer

Pumping

※ Put old wells back on line at Krause

Law Enforcement

※ City of Hastings relocate domestic waterfowl on Harvard WPA
※ Our office notified for tresspass fencing

Fire Program

※ 5,929 acres burned on 31 units
- Assisted refuges in Kansas, Nebraska, Colorado, South Dakota, North Dakota, and Minnesota with prescribed burns
- Assisted Texas, Minnesota refuges and USFS in Colorado and California with wildfire

Partnership/Coordination

※ $612,988 worth of grants was obtained for partners doing research and private land conservation projects.

B. CLIMATIC CONDITIONS

Because the Management District extends over 14 counties, reporting specific rainfalls and temperature information would be voluminous and of little value. 2004 was considered a drought year, which affected the western district more than the eastern. Rains the previous year and more frequent rains in the east left some of the basins in pretty good condition for spring and fall pumping. In the western portion of the District, drought continued to be extreme. Record low levels of water in Lake

McConaughy caused Central Nebraska Irrigation and Public Power to purchase back water delivery, in which we participated in (See Water Rights section). The Platte River went dry again for the second year in a row. The dry conditions dramatically affected shorebird and waterfowl use in the District.

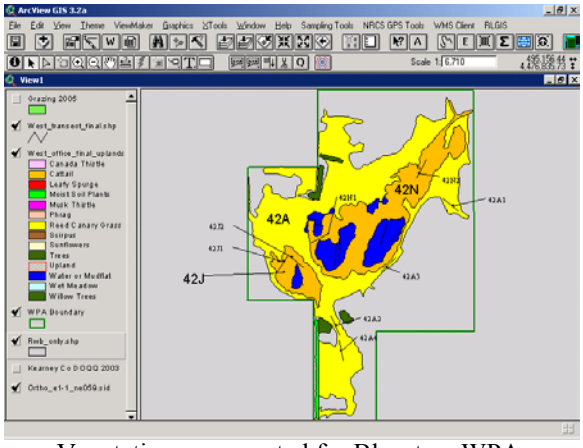
C. LAND ACQUISITION

No land acquisition occurred in 2004. Land acquisition by the Service is nearly impossible. Ducks Unlimited purchased a quarter section of land adjacent to the west boundary of the Wiese tract on Mallard Haven WPA. Their intent is to restore the wetland and upland and then transfer title to the Fish and Wildlife Service. Wetland restoration will include silt removal and the installation of an underground pipeline from the irrigation well to the wetland. Jeff has worked with DU to plan the restoration. Our office is also attempting to burn the Weise tract and the DU property this winter or next spring in order to facilitate silt removal. Our station will also provide the high diversity seed mix for upland restoration. We expect to complete the project in 2005.

D. PLANNING

1. Master Plan

A master plan for this station does not exist. The station is scheduled to begin its Comprehensive Conservation Plan (CCP) process in FY2005. Our station has taking numerous steps to help with developing the plan. They include:



Vegetative map created for Bluestem WPA.

- Completing a detailed mapping of vegetative communities on each WPA. Mapping of wetland areas has been finalized, with the upland mapping portion remaining. A total of 2,424 polygons were created on WPAs and labeled using 23 different local vegetation association names.
- Jeff, Krista, Trevor, Matte Rabbe, Jim Chezem, Joe Speer, and Rich Walters (NGPC) completed data collection on 1,840 wetland vegetation transects. Of the 3,131 transects plotted, 411 remain to be sampled. The JV contributed $21,500 toward this project. For a complete manuscript of this project see RWB_project_report_110104.pdf.
- Completing a visitor services review by Melvie Uhland in the Regional Office.
- Compiling spatial data at the newly established Great Plains GIS Partnership office.

a. GIS Shop

Andy continues to head our GIS efforts. His office is located at the Grand Island ES office. A large, open-office space was provided so all GIS staff could share peripheral equipment and each other's expertise. The office has been named the Great Plains GIS Partnership office. It currently houses GIS specialists associated with our station, Rainwater Basin Joint Venture, Playa Lakes Joint Venture, Central Platte NRD, and Grand Island ES office.

Some of the projects the new GIS shop is involved in include:

- Working at multiple scales to complete landscape level planning projects. The largest geographic scale planning effort is the Platte-Kansas Ecosystem Planning effort. The goal of this project is to identify priority areas for refuge activities within this large watershed. It is currently acquiring spatial datasets and generating compatible formats that can be integrated into the model.
- Completed the Rainwater Basin Joint Venture Prioritization Model report and distributed to various partners. The project identified priority wetland areas and appropriate conservation programs in accordance to each specific wetland's need.
- Assisted in mapping wetland vegetation on publicly owned wetlands within the Basin. A vegetation mapping manuscript and maps was completed and distributed to the JV management and public agencies.
- Collected the first year of high-resolution aerial photography, flown during spring migration. A great number of aerial photos were generated and "stitched" together to give a seamless image needed for other computer software to generate polygons of the various vegetation types occurring. A second collection of aerial photos was collected later during the active growing season. This process will be repeated again in 2005 to document and measure changes in wetland condition and vegetation.

Other activities completed are listed in the Technical Assistance section.

2. Management Plan

Several plans were completed during the year.

a. Prairie Dog Management Plan

Prairie Dog management has received a fair amount of attention in recent years with a directive to cease population control on refuge lands. Our plan was done in conjunction with restoring dog towns on some of the WPAs where they historically occurred. Jeff actually completed the prairie dog plan over a year ago and sent it to the Regional Office for review. It was never signed, but we treat it as an approved document.

b. Fire Monitoring Plan

Jeff completed our first Fire Monitoring Plan (See RWB_Fire_Monitoring_Plan on the accompanying CD). The plan utilizes the vegetation mapping and transect sampling techniques designed specifically for vegetation found on in the District. Goals of this monitoring plan revolve around the specific objective of reducing woody vegetation, reducing late successional and invasive plant abundance, and increasing native grassland communities and species richness.

c. Chronic Wasting Disease Plan

Jeff completed the station's CWD plan (see CWD_Plan.doc on accompanying CD). NGPC has a good CWD plan and we will coordinate closely during active monitoring efforts.

d. Safety Plan

Gene updated the 1993 safety plan and forwarded it to the RO. The plan was signed and returned.

e. Water Management Plan

Steve completed our annual water management plan and received a signed copy back from the RO.

3. Public Participation

4. Compliance with Environmental & Cultural Resource Mandates

A Regional Office safety inspection was completed for our station. Jim Behrman and Terry Black provided us with a short list of deficiencies that need to be remedied. The one that we cannot remedy is the problem of outside storage of equipment. Currently all of our heavy equipment and tractors have to sit outside. Jim and Terry were told how out of a "good friend" attitude we gave back funding for a building several years earlier with the promise from the Regional Office that they would fund it the following year. The "good friend" approach appeared to be not a very good approach.

Feedlot runoff ponding on south boundary of McMurtrey

Feedlot runoff continues to be a problem. On 7 July, Matte Rabbe and Matt Schwarz witnessed what appeared to be feedlot runoff from a Meat Animal Research Center (MARC) feedlot that located ½ mile south of the McMurtrey boundary. Ron Wunibald, a Livestock Wastewater Control Inspector, for the Nebraska Department of Environmental Quality (NDEQ), investigated the area on 8 July. For more information see McMurtrey_Feedlot_Runoff_Concern.doc on the accompanying CD. On a positive note, the feedlot north of Cottonwood WPA has increased their storage capacity. Time will tell if the changes help reduce the amount of raw sewage flowing into the WPA.

Contaminant Specialists from the Grand Island Ecological Services office completed research, which evaluated effluent from a swine operation adjacent to McMurtrey (see Hastings_Pork_ CAFO_00_Final_ Report.pdf). Findings indicated oxytetracycline, 17-B estradiol, testosterone, phosphorus, ammonia, and total nitrogen all exceeded minimum standards acceptable to waterfowl. Salinity was 2-3 times greater, and trace elements from swine waste will likely continue to increase in post-treatment wetlands. The effluent would not reach McMurtrey except in extremely high water conditions.

All other deficiencies were rectified.

5. Research and Investigations

Several studies were conducted in coordination with this station. They are identified below.

Baseline Vegetation Mapping for Rainwater Basin Wetlands; Andrew A. Bishop, Rich Walters, Jeff Drahota

A combined effort between NGPC, RWBJV, and our station was initiated this year to map vegetative communities within wetlands on WPAs and Wildlife Management Areas within the Rainwater Basin. Historically, ephemeral wetland vegetation communities dominated wetlands as a result of sporadic fire, grazing, drought, and flood events. Agricultural conversion of this landscape has decreased occurrence of these phenomena. As a result the vegetative communities have shifted to monocultures of undesired perennials, noxious weeds, and invasive species. These vegetative communities provide little nutritional value to migratory waterfowl. The NGPC and USFWS initiated an aggressive management to remedy this situation. Currently no baseline information is available on the vegetation communities present.

The baseline data will be used in the future to assess responses of wetland vegetation to management treatments, track control of invasive species and noxious weeds, and help support development and application of models, which describe wildlife-habitat relationships.

Mesopredator Movement, Abundance, and Habitat Selection in the Rainwater Basins of Nebraska, Christina J. Kocer, M.S. Thesis, UNL Aug. 2004.

This two-part research was conducted May-June 2002-2003 in Clay County covering 13 x 18 km area on public and private land. The study area was dominated by agriculture (59%), grass/ hay/ pasture 9%, wetlands 17%, woodlands 2%, roads and ditch habitat 13%, and farmsteads <1%. Raccoons (n=16), stripped skunks (n=20), Virginia opossums (n=4) were marked with radio collars and tracked. A total of 43 animals were captured in 2002 and 35 animals in 2003. The number of trapped animals and home range sizes indicates a moderate level of food availability; however, they were unable to estimate population sizes due to low recapture rates.

Habitat Selection and Movements of Mesopredators in the RWB Wetlands of Nebraska

The research summarized home ranges of each radio tagged animal using a fixed kernel estimator. The average home ranges for each species is: raccoons - 768 A, skunks - 655 A, and opossum – 235 A. Raccoons preferred cornfields over farmsteads and corn over soybeans. Skunks preferred woodlands over grassland/hay/pasture. Opossums preferred woodland over row crops. Raccoons and skunks showed a strong preference for wetlands in the RWB. In fact, home ranges were smaller as total area of wetlands increased.

Based on their data, management decisions to improve songbird survival should focus on increasing the area of grassland immediately adjacent to wetlands and increasing the amount of open water within the wetlands. Also, removal of woody vegetation immediately surrounding wetlands may enhance bird survival.

Mesopredator Abundance in the RWB Wetlands: Effects of Landscape Composition and Relationship to Songbird Productivity

Songbird nest abundance and nest success as it relates to predator abundance and landscape features was studied. Researchers checked to see if "upland" birds are more likely to inhabit wetlands with <50% of the surrounding upland matrix tilled. Transects were delineated through wetland (hydrophytes) areas. Nest searching occurred within the transect area and predator abundance was measured using track stations placed at the end of transects. Nests were considered successful if one chick survived to fledgling stage. Average precipitation for Clay County (1971 – 2004') is 32.5". In 2002 and 2003, Clay County received 22.17 and 30.35 inches, respectively. This resulted in drought conditions that likely allowed predators to easily search more of the wetland area.

Research found 188 nests in 2002 and 200 in 2003. Predation was measured using capture rates and track indices. Nest survival was 27% and 36% for 2002 and 2003, respectively. In 2002, wetlands were completely dry by the end of the sampling season and pooled nest survival was significantly lower. Hydrologic improvements to protected wetlands with grassland buffers improved nest survival/fledgling rates by 9%. Removing trees, maintaining and expanding grassland habitat can improve songbird survival. Managing water levels can enhance nest protection.

Estimating Duck-use Days in the Rainwater Basin, Matte Rabbe, Jeff Drahota, and Andy Bishop, 2004.

The purpose of this research was to determine if diverse moist soil plant communities increase foraging efficiency, eliminate stress and disease, and provide an energetically efficient wetland, providing higher duck-use days than other plant communities. Seventeen RWB wetlands were sampled. Using the

current plant associations from the wetland vegetation layer, seed production samples were collected for each species that provide metabolizable energy for waterfowl. For each plant association, 25 quadrates were samples for a total of 125 quadrates collected. Collected seeds were then dried, stripped, and weighed for each 1m x 1m quadrate. The following equation was used to calculate duck-use-days:

> Duck-use-days = [food available (dry mass) X metabolizable energy (kcal/g of dry mass)] / [daily energy requirement (kcal/day)]
>
> Daily energy requirement = 292 kcal/day (based on average duck mass of 1.1 kg)
>
> where, seed production <50kg/ha did not provide for any duck use

Only the moist soil association provided seed production with high metabolizable energy needed for this equation. Three associations: cattail, reed canarygrass, and *Scirpus*, provided overwhelmingly negative energy availability. The Results are not finalized yet. The following example is given to demonstrate the model's ability to predict energy availability associated with the type of food present.

> Kenesaw has 323,760 m^2 (80 acres) of moist soil plants. Seed production was found to be 16.55g/m^2 multiplied by 2.65 kcal/g (metabolized energy value for *Echinochloa crus-galli*) or 43.86. Divide 43.86 kcal by 292 kcal/day to get 0.15 duck-use days per m^2. Multiply 323,760 m^2 by .15 duck-use-days to get 48,631 duck-use days.

Response of Nongame Birds and Terrestrial Invertebrates to Restoration of Upland Grasslands in the Rainwater Basin Region, Nebraska, Jill M. Sporrong, M.S. Thesis, December 2004. OSU

This two-part research was conducted in 2002 and 2003. The objectives of this research were: 1) to evaluate the response of the grassland bird community to different restoration techniques (high-diversity and low-diversity plantings) on upland grasslands in the RWB; 2) to determine grassland bird habitat-use and nest productivity in RWB grasslands relative to different spatial scales (i.e., landscape scale vs. local scale) and habitat characteristics; 3) to evaluate the response of the terrestrial invertebrate community to different restoration techniques (high-diversity and low-diversity plantings) on upland grasslands in the RWB; 4) to evaluate the response of the terrestrial invertebrate community to vegetation characteristics of restored grasslands in the RWB. Data collection included bird surveys, nest searches and monitoring, vegetation sampling, and assessing landscape-level effects

> Response of Nongame Birds to High-Diversity and Low-Diversity Plantings on Upland Grasslands in the Rainwater Basin Region, Nebraska
>
> Sporrong observed 13 species of nesting grassland birds in her study. Five of the top 9 grassland bird species of conservation concern in the Midwest occurred on WPAs. They were dickcissel, bobolink, sedge wren, grasshopper sparrow, and upland sandpiper.
>
> The most notable results of her study indicated pheasants were only found in high-diversity restorations, while common yellowthroats were only found in low-diversity restorations. She noted 31% of the nests were successful and 69% were unsuccessful based on locating 84 nests (41 nests in 2002, 43 nests in 2003). Overall, dickcissels, grasshopper sparrows, and bobolinks were most abundant—accounting for 74% of the total bird abundance. She determined that 66% of the unsuccessful nests failed due to predation, 24% failed due to brown-headed cowbird parasitism, and 10% failed due to abandonment. Nest-success probability of all species was higher in high-diversity rather than low-diversity plantings. High nest parasitism rates were attributed to grasslands being very small in size and often bordered by eastern red cedar (*Juniperus virginiana*) windbreaks.

Response of Terrestrial Invertebrates to Grassland Restorations in the Rainwater Basin Region, Nebraska

Data collection methods included invertebrate sampling and vegetation sampling. Invertebrates were sampled using sweep nets on six high-diversity and six low-diversity restorations. Randomly located pitfall trap arrays (four) were also used.

Sporrong was able to identify 79 taxa and 10,103 individuals. The most abundant taxa were Carabidae, Araneae, Gryllidae, Formicidae, Acrididae, and Silphidae, accounting for 85% of the total number of invertebrates collected. Overall, invertebrate family richness was greater in high-diversity plantings than low-diversity plantings; however, invertebrate diversity is still lower than on native grasslands. It is known that plant community diversity is directly related to invertebrate diversity and our future grassland management supports the concept of diverse grasslands.

Pinpointing Pintails in the Nebraska Rainwater Basin, Bruce E. Davis, Robert R. Cox, Jr., and Richard M. Kaminski, 2004.

The field research for this study was completed in 2004. The research findings included:

- Wetlands provide important natural foods (e.g. moist-soil plant seeds and aquatic invertebrates) for diverse pintail diet needs;
- Cornfields provide high-energy seeds and are easily available quickly increasing their body fat; during wet periods;
- Sheetwater in crop fields were used more than dry fields;
- Pintails used smaller wetlands than snow geese; and
- All radio-marked pintails that used the RWB area survived the rigors of spring migration.

Waterfowl Migration in South Central Nebraska, February to April 2000-2003, Susan Traylor, University of Nebraska-Lincoln

The primary aim of the study was to assess whether there were changes in the abundance or distribution of selected waterfowl species at various landscape scales in the RWB due to hunting. A secondary objective was to explore the use of aerial surveys for monitoring regional waterfowl populations and collecting information about hunter activities.

Unfortunately the funding ran out prior to the data being analyzed or published. But, preliminary analysis and general observations let us to believe that hunting was not affecting the distribution of the waterfowl between WPAs or between the east and the west portions of the District.

Local and Landscape Factors Influencing Migratory Wetland Bird Distribution, Abundance, Diversity, and Communities in Rainwater Basin Wetlands, Elisabeth K. Brennan and Loren M. Smith, Texas Tech University, and Mark Vrtiska

The goal of this project is to obtain detailed information on migratory wetland bird use patterns and requirements in the RWB as they relate to local (i.e. area, productivity, vegetation patterns) and

landscape-level (i.e. surrounding habitat use, degree of isolation from other wetlands, disturbance from hunting) factors. The fieldwork was completed but final analysis and publication has not occurred.

On a side note, a manuscript was written by the researcher evaluating the value of burning wetlands in the Rainwater Basin for waterfowl. The manuscript indicated that burning was not of significant value and the money would be better spent purchasing land. The opportunity to review the paper let to a strong response by various members of the staff. The methodology used and the fact that the research was not the same as the proposal awakened our eyes to how research can lead to researcher making management recommendations based on only one aspect or factor. Hopefully, the paper will be seriously re-worked before another attempt to publish occurs.

6. Other

E. ADMINISTRATION

1. Personnel


Part of staff at Tom's farewell party

Our station has thirteen permanent employees and three seasonal positions. The station contains staff associated with three primary programs of the Service: refuge management, fire, and private lands. Mark Pfost was hired to fill a biotech vacancy left by Brice Krohn when he transferred to become a permanent, seasonal in the fire program. Tom left our staff in July to become the Refuge Manager at LaCreek NWR. Steve had his position title changed from Bio-tech to Refuge Operations Specialist. Bill Stahl was hired for a fire job on a military base in Florida. We experienced three weddings—Mindy, Kyle, and Krista. Mindy Meade became Mindy Meade-Vohland. Kyle stayed Kyle Graham. And Krista Adams became Krista Hostetler. Brice became the proud father of a baby boy.

Permanent full-time positions:

Andy Bishop	→	Natural Resource Specialist	Susann Cayouette	→	Administrative Assistant
Jeff Drahota	→	Wildlife Biologist	Kyle Graham	→	Wildlife Biologist (Private Lands)
Steve Karel	→	Refuge Operations Specialist	Brice Krohn	→	Supervisory Range Technician
Brad Krohn	→	Biological Technician	Rusty Lammert	→	Maintenance Worker
Mindy Meade	→	Wildlife Biologist (Private Lands)	Gene Mack	→	Project Leader
Mark Pfost	→	Biological Technician	Bruce Winter	→	Prescribe Fire Specialist
Vacant	→	Deputy Refuge Manager		→	

Temporary positions include:

Krista Hostetler	→	Range Technician	Trevor Weston	→	Range Technician
Bill Stahl	→	Range Technician			

2. Youth Programs

No youth program exists at the station.

3. Other Manpower Programs

Andy and Jeff was able to make arrangements with the Bureau of Reclamation for them to hire two seasonal (summer) employees to assist with running vegetation transects and inputting data into GIS. They worked on public lands owned by NGPC and the Service. They were Joe Speer and Matte Rabbe. Both individuals were certified to operate ATVs.

Interns: Stephani, Ginger, & Brad

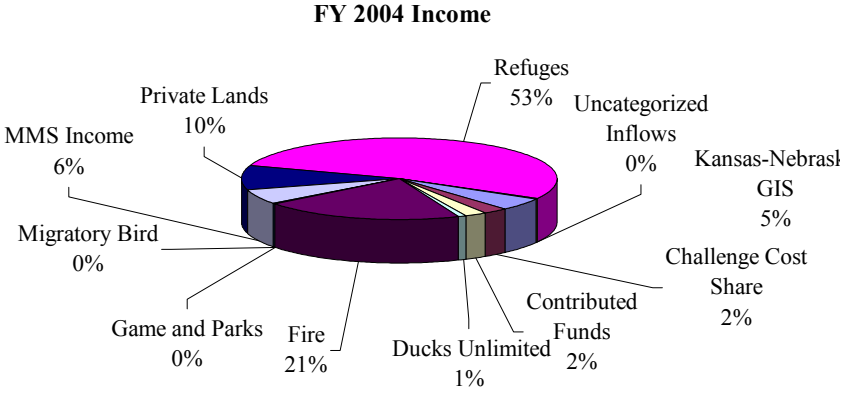
4. Volunteer Program

During 2004, volunteers assisted our station with a wide array of projects. Activities included weed control, neck collar reading, prescribed burning, seed harvest, vegetation mapping, and biological surveys.

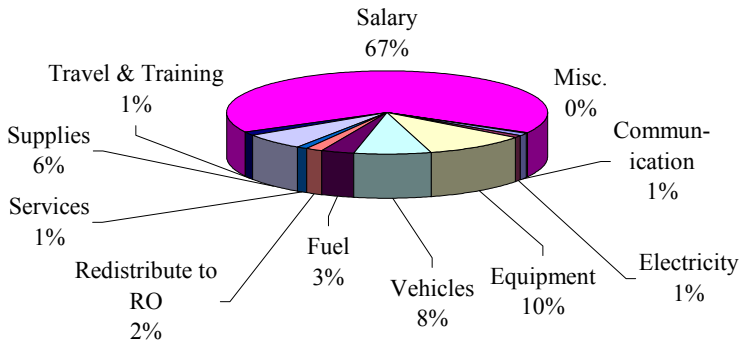
The following people made significant contributions during 2004.

Volunteer	Home Town	Projects
Harold Cayouette	Kearney, NE	Install and update computers
Ginger George	Alliance, NE	Burning, bio. surveys
Stefani Balison	West Linn, OR	Burning, bio. surveys
Brad Church	Milwaukee, WI	Burning, bio. surveys
Jim Chezem	Kearney, NE	Vegetation surveys
Matt Rabbe	Lincoln, NE	Vegetation surveys
Mike and Constance Schwitters	Choteau, MT	Goose-collar surveys

5. Funding



FY 2004 Expenditures



Total funding for FY 2004 was approximately 1.3 million. Approximately half of that was from 1261 and 1262 funding. MMS funding dropped from being 17.5% of last year's budget to being only six percent. Another significant portion (17.5%) was funding for MMS equipment. Although we do not have a Friends group, our contributed funds for work we do on WPAs was 2.0 percent of our budget. The 21 percent associated with fire reflects the expansion of our prescribed and wildfire program. The ten percent associated with Partners for Fish and Wildlife covers work accomplished by staff within the Rainwater Basin, as well as, the Sandhills. Salary accounted for 67 percent of total expenditures.

In past years, NGPC has contributed funds for the pumping of water into wetlands during the fall migration. Extreme budget problems forced the Commission to zero out their contribution for fall pumping in 2002. In 2003 they provided $2000. In 2004 it was zero.

Migratory Bird Office provided us with $5,000 to support spring bird surveys and other biological work done in association with waterfowl.


Terry Black and Brad doing safety inspection

6. Safety

Terry Black and Jim Behrman from the Regional Office conducted a safety inspection. The deficiencies they found included a need for more safety cabinets and replacing receptacles with GFI-type receptacles. Brad and Steve lead our safety program. Meetings are held on a frequent basis in conjunction with staff meetings. One accident occurred during the year. It involved an injury to Brice's arm when it got caught between two ATVs while they were being loaded after a prescribed burn. Members of the staff were certified on equipment.

7. Technical Assistance

Two FTEs are dedicated to working with private landowners to restore wetlands and upland habitat. Mindy began her fifth year working with landowners within the Rainwater Basin to increase or improve wetland habitat. Projects included wetland restorations and temporary wetland projects know as seasonal habitat improvement projects. One of the primary focuses of her job has been obtaining conservation easements through the Wetland Reserve Program. Bioengineering teams made up of various agencies' staff review projects and develop restoration plans for the wetlands. All of her

accomplishments and contacts are entered into the Rainwater Basin Information System (a database used by the various partners of the Rainwater Basin Joint Venture).

Kyle focused on projects in the Sandhills. Projects completed included planned grazing systems on entire ranches and along riparian areas. Much of his work is in conjunction with work being done by the Sandhills Task Force. Gene continues to serve as the Secretary/Treasurer on their management board. During 2004, nearly 40,000 acres of grassland, wetlands and riparian habitat were enhanced. Total expenditure, by the Task Force, for projects was approximately $172,000. Private Lands share was $16,000.

Wetland restoration project in the Sandhills, Cherry County

Andy Bishop is a permanent employee of this station, but is located in the Ecological Service Office in Grand Island. Andy heads the newly formed Great Plains GIS Partnership office. He works extensively with all partners of the Rainwater Basin Joint Venture on improving management, research, monitoring and assessment of habitat within the 14 counties. Much of this is described in Section D.1. Master Plan.

Joint Venture Management Board on field trip

Technical assistance is a large part of the work produced by this station. Technical assistance ranges from providing fire and land management recommendations to obtaining grant funding, to assisting other refuges to develop a biological/GIS program at their station.

Andy has provided training for Refuge Lands Geographic Information System (RLGIS) implementation to FWS personnel from various stations, as well as, staff from other State and Federal agencies. NGPC has adopted the RLGIS software to record their management actions of state lands. He has also helped set up computers and GIS hardware and software at Flint Hills, Marias des Cygnes, North Platte and Crescent Lake. Other refuges in Nebraska and Kansas are planned for 2005. At the dire request of the Regional Office, Andy shared his expertise and connections to provide aerial photography acquisition for the 13 refuges in Colorado, Kansas, and Nebraska. Vegetation formation level maps were developed on five of those refuges. This same service was done for six other project involving partnership projects in Nebraska.

Jeff provided migration population estimates to the Science Review Team that reviewed the critical habitat designation of the Platte River. His data included the river and our District as one unit (See Waterfowl_Summary.doc).

Other technical assistance included giving presentations to various land management agencies and personnel on wetland management practices, conservation funding sources, and conservation programs. See Section H.1. for a list of formal presentations given.

8. Formal Training

Training	Individual	Date
ATV certification	Ginger George	March, 2004
ATV certification	Brad Church	March, 2004
ATV certification	Stefani Balison	March, 2004
ATV certification	Joe Speer	May, 2004
ATV certification	Matte Rabbe	May, 2004
CDL license	Trevor Weston	October, 2004
CDL license	Mark Pfost	October, 2004
Load securement	Mark Pfost	October, 2004
Tractor certification	Mark Pfost	October, 2004
Refuge Academy	Steve Karel	July, 2004
Advanced Refuge Academy	Gene Mack	November, 2004
Budget Tracking System	Susann Cayouette	October, 2004

9. Other

Members of our staff have spent considerable time and effort in finding outside funding to accomplish or enable others to accomplish the goals of the station and the Service. This effort allows us to expand the capability of our office throughout the landscape.

Several grants (awarded) were written and/or administered by station staff. They are listed below. This station received none of the funds.

Project	Amount	Administrator
Grazing as a Management Strategy for the Control of Reed Canarygrass in RWB Wetlands: A Three-Year Study.	$180,000	Andy
Waste Grain Availability in the Central Platte River and RWB: A 3-Year USGS Study.	$180,000	Andy
Analysis of Exotic Species Mapping and Analysis of Physical Soil Characteristics	$26,000	Tom & Jeff & Andy
Analysis of Wetland Invertebrates Associated with RWB Wetlands		Jeff & Andy
Private Stewardship Grant for Sandhills	$39,010	Kyle
NGPC State Wildlife Grant	$17,978	Gene
Nebraska Environmental Trust Grassland Project (Sandhills Task Force)	$93,000	Gene
Nebraska Environmental Trust Riparian Project (Sandhills Task Force)	$250,000	Gene
Nebraska Department of Environmental Quality Stream Restoration Project (Sandhills Task Force)	$166,000	Gene
Nebraska Environmental Trust Stream Project (Private Landowner)	$47,000	Gene & Landowner
Total	**$612,988.00**	

F. HABITAT MANAGEMENT

1. General


Funk burn

Two of the primary goals for our land management are to restore wetlands to a more natural hydrology and to convert cropland to high diversity grassland environments. Approximately one-fourth of the WPAs have some water pumping capabilities. Our ability to pump exceeds the funding and staffing available. Wetland management actions are being done to remove or limit dense stands of cattail, bulrush, and reed canarygrass. Grazing, burning, and disking are used to reach those goals. We have observed that the lack of disturbance in wetlands has caused a thick build up (4-12 inches) of organic matter, which absorbs quite a bit of runoff before any surface water is available for waterfowl. Wetlands that have been heavily grazed or disked have seen drastic declines in organic buildups. The decrease in organic matter and vegetation has made more habitat available with less pumping. As expected, vegetation diversity and amount of bird use are increasing on managed wetlands.

Spatial data on prescribed burning, private-lands projects, weed control and seeding are being created to help document vegetative changes and bird response to management actions. In 2004, our station began inputting this information into RLGIS.

2. Wetlands


Johnson WPA after spring burn

About 50 percent of the lands we manage are wetlands. Both the wetlands and the uplands are part of the grassland ecosystem, so management between wetlands and uplands do not vary much. The same management techniques are applied to both. They just vary in application frequency and intensity. This is discussed in sections on grazing, haying, fire management, and pest control. See also file "2004_ Wetland_Management_Report.doc"


Mallard Haven 49% full, 70% unvegetated, ponding 357A

Jeff, Andy, and Rich Walters (NGPC) continued their comprehensive wetland vegetation-mapping project this year. Details are described in Section D.1.

Habitat availability in terms of ponded water varied greatly across the District with the west continuing to be very dry and the far east getting just enough rain to be a little below average. Funk was almost dry for most of July and early August and only ponded a little over one acre of water from mid-April until we pumped in October.

Four aerial habitat surveys were conducted in March (See 2004_Aerial_Habitat_Survey.xls). All ponds averaged 36% full with 55% of all ponded areas providing open water (sparsely vegetated or no vegetation present). The East District provided the most habitat with 5,743 acres of ponded water (average 49% full), and the West District provided 553 acres of ponded water (average 8% full). In fact, the West District areas that were pumped provided 80% (444 acres) of the ponded habitat, whereas in the East District the pumped areas provided 33% (1,910 acres) of the ponded habitat. Many of the East District wetlands did pond water prior to pumping.

The shorebird pond index fluctuated from low in early April to high in early July and back down to average by fall. In May, more than 80% of the seasonal and semipermanent wetlands were ponding water, and by 19 July, after some heavy rains, 94% of the semipermanent wetlands were ponding water.

b. Pumping

Spring and fall pumping is done on various WPAs within the District. Which ones and for how long is dependent on funds available, soil and water moisture conditions, short-term management plans, and current climatic conditions.

NGPC has constructed wells on some of their own properties and have diverted their traditional funding from giving it to us to using it on their own lands. Our fall pumping strategy is to delay pumping until late October and into November. This is done to maximize the benefit of the water. The big "push" of birds do not occur until this time of year and the temperatures are such that evapo-transpiration is negligible. We also are likely to have some of that water still available for spring migration. We do, however, receive complaints from sportsman but no solution to provide more water earlier has been found. The table below shows costs and volume pumped in 2004.

New electric engine purchased by DU to replace fuel engine on Krause

New pipeline delivery system on Harvard. Constructed in 2003.

Well	Type	Date On	Date Off	Actual Hours operated	Acre-ft.	Acre-ft/day	Cost/ Acre-ft.
Cottonwood	N.gas	02/26/04	03/03/04	145	27.74	4.59	$33.75
Hultine	N.gas	02/28/04	03/02/04	74	14.09	4.57	$52.51
Massie- South	Diesel	02/17/04	03/02/04	294	95.42	7.79	$12.96
Mcmurtrey -west	Electric	02/25/04	03/03/04	170	47.03	6.64	$9.25
Mcmurtrey -east	Electric	02/25/04	03/03/04	170	53.56	7.56	$8.63
Johnson	Electric	02/11/04	03/03/04	507	98.75	4.67	$8.40
Springer	Electric	02/17/04	02/23/04	145	25.31	4.19	$8.02
Eckhardt	Electric	02/17/04	02/27/04	240	25.35	2.53	$9.39
Funk-Teal	Diesel	02/11/04	03/01/04	370	106.86	6.93	$9.99
Mallard Haven -east	Electric	02/17/04	03/01/04	312	113.11	8.70	$12.68
Mallard Haven -west	Electric	02/17/04	02/24/04	168	N/A	N/A	
Prairie dog-west	Diesel	02/11/04	02/28/04	262	33.72	3.09	$18.83
Harvard-S.W.	Electric	02/17/04	03/01/04	318	111.30	8.40	$8.29
Harvard- N.E.	Electric	02/21/04	03/02/04	241	43.81	4.36	$7.88
Harvard-S.E.	Electric	02/17/04	03/02/04	338	40.37	2.87	$11.17
Smith	Electric	02/17/04	03/02/04	336	90.86	6.49	$7.22
Massie- North	Electric	02/11/04	03/02/04	482	52.78	2.63	$8.51
Moger	Diesel	02/24/04	03/10/04	145	49.52	8.20	$16.70
Funk-Peterson	Diesel	02/11/04	03/03/04	383	164.78	10.33	$13.47
Lindau	Diesel	02/26/04	03/03/04	163	6.69	0.98	$77.61
Wilkens	N.Gas	02/25/04	03/01/04	121	12.75	2.53	$44.70
Johnson	Electric	10/12/04	11/09/04	670	129.69	4.65	$8.71
Funk Pintail/Teal	Diesel	10/12/04	11/05/04	370	109.14	7.08	$10.66
Prairie dog west	Diesel	10/14/04	11/05/04	205	37.11	4.34	$24.12
Prairie dog east	Diesel	10/12/04	10/28/04	240	37.01	3.70	$32.15
Youngson	Diesel	10/13/04	10/21/04	152	36.72	5.80	$33.28
Cottonwood	N.gas	10/12/04	10/27/04	258	55.17	5.13	$29.87
Massie south	Diesel	10/13/04	10/28/04	212	69.69	7.89	$12.84
Harvard S.W.	Electric	10/13/04	10/19/04	141	48.96	8.33	$8.37
Eckhardt	Electric	10/25/04	11/04/05	209	24.62	2.83	$9.38
Hultine	N.gas	10/13/04	10/19/04	124	27.80	5.38	$39.85
Mallard Haven East	Electric	10/13/04	10/19/04	142	50.98	8.62	$12.00
Mallard Haven west	Electric	10/13/04	10/19/04	142	8.65	1.46	$23.45

Linder wetland with open water in area where fill material was removed

c. Linder WPA

Restoration work within the Linder watershed had significant impact on the hydrology of this wetland basin. Both projects were made possible by Mindy's work with neighboring landowners. A small pit was filled and the adjoining 1,100 feet of waterway was resloped to restore about 22 percent of the watershed's flow back to the wetland.

The second restoration was larger and involved the filling of a pit immediately west of Linder. The

storage capacity of the pit was 5.46 acre-feet of water. This pit normally went dry during the summer—indicating that the clay seal below the wetland was broken. Approximately seven percent of the watershed flowed through the pit to get to the wetland. Fill material came from a 10-acre area of the wetland with 8 to 10 inches of sediment being removed.

d. Cottonwood WPA

After years of confined animal feelot runoff dumping into Cottonwood, action was taken in the 2003-2004. A lagoon was built on the property north of the WPA. Sediment and animal waste was so thick in the waterway coming off the feedlot that the Phelps County was forced to construct an new box culvert on the road and widen the waterway coming to our wetland. We gave Phelps County approval to improve the waterway on our property with the condition the waterway be wide, the sides sloped, and the waterway stop at the edge of the wetland. The gradient coming from the road is extremely flat, requiring the wider dimension.

Silt and animal waste in Cottonwood waterway

e. Funk WPA

A small pit located on privately-owned land within the watershed restored approximately 2.7 acre-feet of natural run-off. A new water control structure was also installed along the south side of the Pintail Unit. The structure is designed to help provide water from the road ditch into the wetland.

f. Jones

A privately owned pit adjacent to Jones WPA was filled, partially restoring natural run-off to the 96-acre Jones WPA. The pit was capable of holding an estimated 9.5 acre-feet of water. An estimated 60 percent of the watershed flows into this pit before it can begin to reach the wetland. Fill material came from the wetland. About 4-8 inches of fill was removed over 14 acres. Soil from an additional 2.1 acres of upland containing non-native intermediate wheatgrass was removed, to be used as additional fill. That portion was reseeded with high diversity native seeding.

g. Peterson

Our office held informational meetings with landowners and Tri-Basin NRD about runoff within the Peterson WPA watershed. Soil deposition in the natural waterway and land reshaping has greatly diminished runoff. We came to an agreement with the landowners and Gosper County Road Department to improve the drainage. In the process, two projects were done.

Peterson waterway

One involved filling a privately owned pit using soil adjacent to the road ditch. The pit had the holding capacity of four acre-feet.

The second project involved cleaning the inlet to the wetland from the north. Approximately 6,000 feet were improved. A good portion of which was on the WPA. A wide, shallow waterway was made that lead directly to the wetland. The previous one meandered on both sides of a poorly maintained road build through the wetland. Some of the soil from the new waterway was used to fill the last couple of feet of an old pit in the wetland. Another portion was hauled away by the neighboring landowner. Trees along the old road were also cut down and the stumps removed. Approximately 4 percent of the watershed for the 515-acre wetland was restored. Gosper County Road Department contributed about $14,000 toward the restoration.

h. Mallard Haven

The motor grader was used to rebuild a dike on the south unit to help hold water in the smaller wetland south of the main wetland.

i. Harvard

Four cattle watering pits along the well's delivery ditch (east side) were filled. The pits were utilized in the past to deliver livestock water, prior to underground pipeline being installed. The long delivery ditches, which extended from the two east wells were filled and reseeded. The northeast underground delivery pipe's outlet was changed to eliminate freezing below ground.

3. Forests

As a grassland ecosystem, our station does not manage for trees or forests. In 1996, a conflict of interests between the Service and NGPC occurred over our interest in removing poorly planned shelterbelts on WPAs. NGPC had paid the cost to have the belts planted in the 1980's. They believed they had an interest in determining the fate of the shelterbelts. An agreement was reached that identified shelterbelts would not be disturbed for a period of eight years. By that time, NGPC felt they would have received enough benefit for their investment.

A considerable amount of time continues to be spent controlling invasive trees. Methods of control include prescribe fire, shredding, herbicide application, and tree cutting. Many of the areas cleared of trees in the last five seasons continue to have trees resprouting; particularly, Macon Lakes, Johnson, Jensen, Rauscher, Kenesaw, Hannon, Victor Lakes, Qaudhamer, Clark, Gleason, and Jones WPAs. . Green ash, Chinese elm, honey locust, and eastern cottonwood are the species most likely to resprout. This is likely as a result of established roots remaining alive. Either some trees were not treated with herbicide or not enough herbicide was trans-located into the roots to kill the roots

a. Cottonwood

Nearly all the trees, not in windbreaks, were dozed or cut and then stacked. We managed to complete cutting piles after the burning to remove most of the tree piles.

b. Harms

Fire crews cut and stacked most of the remaining trees. Burning is planned for 2005 to remove the piles. Spring and summer rains put water into the wetland and a significant amount of moist soil plants grew.

Tree removal with Bobcat

c. Wilkins

Fire crews removed trees from the west unit. The remaining trees are scheduled to be removed in 2005.

d. Johnson

A significant number of trees were cut and stacked in the northeast quarter of the WPA and in an area south of the main wetland. The remaining trees are scheduled to be removed in 2005.

e. Macon Lakes

A significant number of trees were cut and stacked. More will be cut in 2005 along with prescribed burning.

4. Cropland

Croplands under District management are only temporary. Each year, a portion of cropland is reseeded to native grasses and plants. Our goal is to have no refuge lands cropped. New cropland is farmed using Roundup-ready soybeans. This prepares the ground by making the surface relatively smooth and weed-free. Local native seed, collected from refuge lands, are mixed and planted. Grassland areas on a few WPAs, primarily Funk, have been returned to cropland (Roundup-Ready soybeans) in an effort to remove evasive plants (primarily Canada and musk thistle). Each of the farmed areas had a poor stand of native grasses and was dominated by brome and Kentucky bluegrass.

In 2004, only two WPAs had cropland on them. Funk had 236 acres and Johnson had 143 acres. In 2003, the question was raised at the National level regarding the presence of genetically modified (GM) crops on refuge lands. Each field station reported their acreages and Washington compiled the information in order to make a policy determination. So far, we have not been told to stop using GM crops. There are a few of us who believe there is no such thing as a non-genetically modified crop.

5. Grasslands

Rainwater Basin is located in the central portion of the Great Plains that was historically part of the tall-grass and mid-grass prairie. Trees were pretty much limited to river islands and draws that escaped wildfire. Our management on refuge lands is to restore, to the level possible, these same ecological characteristics.

Grazing, rest, and prescribed fire are used to manage grasslands. A limited amount of haying is used annually. Grassland restoration is aimed at returning cropland and low diversity grasslands into high-diversity native plant communities. Seeding is primarily done on cropland during winter months when a light covering of snow exists. Interseeding is done on lands containing the traditional five-species plantings, following burning or near the end of grazing. Extensive information about grassland management can be found in the document entitled “Upland_Management_And_Seeding_Report”

a. Harvesting High Diversity Seed

Harvest of large volume seed is done with a combine containing a stripper-header. Most of the forbes and sedges are harvested by hand or by using a small seed stripper pulled by an ATV. Our goal is to harvest seed for our need, plus a reasonable amount to help our partners meet their needs within the District.

The table below shows harvest sites and the major species component. A number of road ditches, cemeteries, and WPAs are not included in the table due to the small quantities harvested at those sites.

Krista handpicking native seed on Verona WPA.

Site location	**Species** (major components, may have additional native species unlisted)	**Total** (lbs)
Alexandria WMA	Canada milkvetch-used from leftover seed	100
Atlanta WPA	Side-oats gramma	30
Atlanta WPA	Silver-leaf scurfpea, Slimflower scurfpea	20
Bassway West WMA	Spiderwort	10
Deep Well WMA	Canada wildrye, Big bluestem, Indian grass, Canada milkvetch, Sunflowers	1200
Department of Roads Axtell North	Prairie coneflower	50
Eckhardt WPA	Leadplant, Wild rose, White and Purple prairie clover	50
Hannon WPA	Green needle grass	30
Hannon WPA	Illinois bundleflower	60
Harms WPA	Big bluestem, Little bluestem, Switchgrass, Indian grass, Wild rose, misc. forbs-including left over seed	400
Harvard WPA	Coreopsis spp.	20
Harvard WPA	Purple prairie clover, White prairie clover, Compass plant	800
Hultine WPA	Foxtail barley	10
Macon Lake WPA	Black-eyed susan	50
Massie WPA	Eastern gamma grass	25
Meadowlark WPA	Indian grass, Big bluestem, Switchgrass, some misc. forbs	700
Nelson WPA	Big bluestem, Little bluestem, Switchgrass, Indian grass, misc. forbs	500
Smith WPA	Porcupine grass	20
Smith WPA	Big bluestem, Little bluestem, Switchgrass, Indian grass, Leadplant, Wild rose, Wild licorice, lots of asters and a 50-plus species misc. forb mix	2000
Springer WPA	Canada milkvetch	30
Springer WPA	Canada wildrye, Big bluestem, Blue sage, Rosinweed, Stiff sunflower, Maximillian sunflower	3500
TNC	Forb species	130

Site location	**Species** (major components, may have additional native species unlisted)	**Total** (lbs)
Alexandria WMA	Canada milkvetch-used from leftover seed	100
Atlanta WPA	Side-oats gramma	30
Atlanta WPA	Silver-leaf scurfpea, Slimflower scurfpea	20
Bassway West WMA	Spiderwort	10
Deep Well WMA	Canada wildrye, Big bluestem, Indian grass, Canada milkvetch, Sunflowers	1200
Department of Roads Axtell North	Prairie coneflower	50
Eckhardt WPA	Leadplant, Wild rose, White and Purple prairie clover	50
Troeaster WPA	Big bluestem, Little bluestem, Switchgrass, Indian grass, misc. forbs	100
Troester WPA, Nelson WPA	Virginia wildrye	350
Verona WPA	Porcupine grass	10
Verona WPA	Wild onion, Prairie larkspur, Pale poppy mallow	30
Other Areas	Misc.grasses and forbs	775
	TOTAL	11,000

b. Seeding

Seeding is planned for numerous sites on WPAs (See table below). High Diversity seed was also distributed to Boyer Chute NWR, Kirwin NWR, DeSoto NWR, LaCreek NWR, Pheasants Forever, Ducks Unlimited, and Nebraska Game and Parks Commission.

UNIT	DATE	ACRES	COMMENTS
Funk WPA Bittern Unit	12/04-4/05	43 upland 5 wet meadow	Funk Mix - mainly grasses Wet meadow mix seeded around perimeter of wetland
Jones WPA	1/05-3/05	10 upland 10 wetland	High diversity mix
Atlanta WPA, NE	1/05-3/05	3 upland	High diversity mix
Harvard WPA	1/05-3/05	10 upland	High diversity mix
Krause Unit	Planned March 05	9 upland	High diverse mix
Waco Unit	Planned March 05	9 upland	High diverse mix
Viktor Lakes WPA	Planned March 05	15 upland	High diverse mix

UNIT	DATE	ACRES	COMMENTS
Linder WPA	Planned February 05	4 wetland	Wet meadow mix
Others	Planned May thru July 05	100	Some disturbed areas as well as lots of interseeding.
Todd Tyler Project (Phase 1)	3/04	400	A wetland mix and a separate upland mix. Not our seed.
Todd Tyler Project (Phase 2)	1/05	400	A wetland mix and a separate upland mix. Not our seed.

Additional seed was distributed to our partners. The table below shows the distribution amounts to various partners and refuges.

Recipient	Estimate of bulk lbs of seed @ 30 lbs per/bag	Species
Boyer Chute NWR	40 bags/1,200 lbs	150+ species mix 3 bags of 70+ species mix
Nebraska Game&Parks Comm.	35 bags/1,050 lbs 40 bags/1,200 lbs	150+ species upland mix Deep Well WMA mix
Pheasants Forever	40 bags/1,200 lbs (plus odds and ends ? lbs)	Canada and Virginia wildrye mix (80 + species mix)
Kirwin NWR	30 bags/900 lbs 15 bags/450 lbs	150+ species mix, 70+ species mix
DeSoto Bend NWR	2 bags/60 lbs	150+ species mix
LaCreek NWR	25 bags/750 lbs	Canada Wildrye 70+ species mix
TNC (Nature Conservancy)	14 bags/420 lbs	High diversity grass mix, coreopsis, w.wheat, v. wildrye
Central Irrigation District	25 bags/750 lbs	Canada Wildrye 70+ species mix
TOTAL	**At least 7,980 lbs**	

c. Partnerships

Our office partnered with the Nature Conservancy and NGPC to try to propagate some plant species that are difficult to find seed sources. Small, irrigated plots were tilled on NGPC ground near Grand Island. TNC and our office provided seed and assisted in growing seedlings and planting them at the Grand Island site. NGPC agreed to irrigate the seeding during the summer months. First year growth was very good. Approximately 15 species were planted. Some of the species were pink poppy mallow, leadplant, white prairie clover, purple prairie clover, porcupine grass, compass plant and Virginia mountain mint.

Brad helping to plant seedlings at nursery plot

6. Other Habitats

Two of our management areas contain a riverine system. Management on those is for a grassland riparian area similar to pre-settlement conditions. Hannon WPA is located on the north channel of the Platte River and is void of trees. The area is frequently burned to keep it in healthy grassland. The other property is on the main channel of the Platte and has had most of its trees mechanically removed. Lands bordering both sides of the property remain forested. Drought conditions have made it difficult to obtain a burning permit for this site.

7. Grazing

Next to rest, grazing is our primary management tool. Grazing occurred on portions of 25 WPAs in 2004. A total of 7,933 AUMs were harvested. This includes many acres that were rotationally grazed and were rested for most of the growing season. Most of the grazing occurs in wetland basins with the uplands being rested or grazed at a lighter rate early in the growing season. We receive frequent calls from recreationists asking why we have livestock on a wildlife area. Our explanation appears to satisfy nearly everyone. We continue to have a couple of prominent individuals in separate communities that are vocally upset with our grazing because they believe we remove too much wetland vegetation; much needed for pheasants. The number of positive comments outweighs the negative ones by about 10 to one.

Wetland grazing has been shown to provide desirable plant response under the right conditions. With the right timing and amount of grazing pressure, plants such as reed canary grass, river bulrush, and cattails have been severely injured. The extensive root systems are literally shredded by the cows' hooves as they graze and trail through portions of the wetland. Species such as smart weeds, burreed, barnyard grass, spikerush, and other desirable plants are replacing. Even if conditions are not favorable for plant regrowth, the basins are open the following spring.

We are noticing that hoof action is also compacting the soil, allowing for better water retention. Another benefit appears to be the reduction in the amount of silt on top of the clay by incorporating silt into the clay layer. The fine difference in soil elevation cause by hoof prints also allows for germination of a wider variety of moist soil plants.

One of our cooperators on Funk WPA was given a grazing permit to graze wetlands. It was his second year of doing so. But, there is a certain amount of apprehension by livestock owners about grazing wetland plants. The cooperator took forage samples (May 11) and had them tested. The results were extremely impressive. Crude protein was almost 28 percent for smartweed, 22 percent for phragmites, and 36.5 percent for curly dock. This was on areas that were burned early in the spring. Tests done the previous year showed cattail to be 14 percent and reed canarygrass to be 15 percent. Unfortunately the time of testing was not recorded in our record. We do believe it was done in the later part of May.

A more detail description of our grazing program and accomplishments can be found in the enclosed CD, under Wetland Management.

With Tom transferring to LaCreek NWR, the grazing responsibilities were split between Brad, Steve and Jeff.

8. Haying

Haying within the District is pretty much limited to haying firebreaks along shelterbelts and boundaries of units planned for next spring burns. Writing special use permits for haying became the responsibility of Bruce while the Deputy position remains vacant.

9. Fire Management

The dry winter and spring facilitated our fire program. Thirty-one burns were completed, totaling 5,929 acres. Seven of the burns were wildland-urban-interface (WUI). Three wildfires totaling 16 acres occurred. USFWS firefighters from North Dakota, Minnesota, Kansas, and Colorado were brought in on details to assist with prescribe burning. Three range technicians were also hired. They were Trevor Weston, Bill Stahl, and Krista Adams. Half way through the season, Bill Stahl took a fire job in Florida. We chose not to replace Bill for the remainder of the season because of how it messes up the starting date for the following year. Brice Krohn was hired as Supervisory Engine Crew Leader.

On-site, pre-burning briefing of fire crew

Fire crew

The technicians completed various fireline taskbooks and attended numerous fire classes throughout the season. The technicians assisted refuges in Kansas, Nebraska, Colorado, South Dakota North Dakota and Minnesota with prescribed burns. When our burn season was over, the range technicians assisted FWS in Texas and Minnesota and US Forest Service in Colorado and California with wildfire suppression. Bruce Winter continues to represent Region 6 as a member of the USFWS Fire Operations and Safety Team.

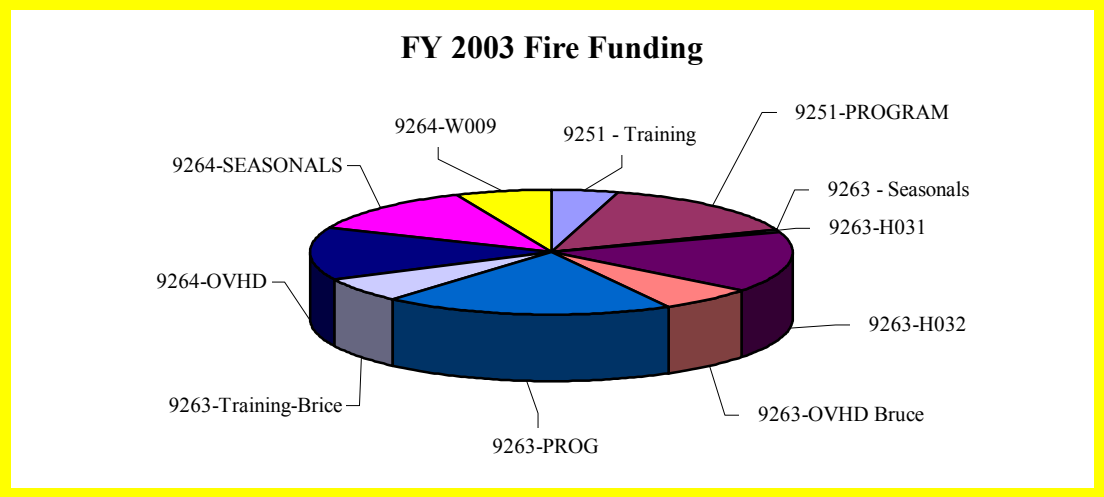
Below is a list of the units burned in 2004.

WPA	Burn Unit	Acres	Date
Funk	Bittern	25	1/15
Funk	Teal	80	1/15
Clark	Northeast	33	3/09
Clark	North	80	3/09
Johnson	Big Marsh	271	3/12
Johnson	Substation	103	3/12
Bluestem		76	3/16
Hannon (WUI)	West	320	3/17
Wyoming	Meadow	140	3/18
Funk	Whitetail	76	3/18
Funk	Mallard	443	3/21
Weseman (WUI)		211	3/23
Funk (WUI)	South	434	3/23

WPA	Burn Unit	Acres	Date
Linder		152	3/24
Gleason	North	160	3/24
Atlanta	Central	800	3/25
Cottonwood	East	270	3/30
Peterson (WUI)	Southeast	317	3/31
Hultine (WUI)	Northwest	200	4/01
Hultine (WUI)	Central	160	4/01
Harvard	Southwest	60	4/02
Harvard	Moist Soil	118	4/02
Verona	South	107	4/06
Massie	Uplands	57	4/06
Kenesaw	**Wildfire**	16	4/06
Mallard Haven	Uplands	205	4/08
Springer	Northeast	273	4/13
Springer	Central	139	4/13
Funk	Willet	287	4/17
Funk	Peterson	172	4/17
Eckhardt		149	4/19
Krause	North	55	4/22
Old Church	**Wildfire**	0.1	8/10
Harvard RR	**Wildfire**	0.1	9/30
RX units 31 for 5,929 acres		**Wildfires 3 for 16.2 acres**	

a. Fire Funding

Fire funding at this station continues to be about adequate. We have received enough money in the past to purchase needed equipment and pay for crews to assist with burning. The funding however, continues to shift more toward wildland-urban interface (WUI) and fire suppression. In 2005, we expect funding to be considerably tighter. Unlike refuges, we fail to get funding to construct a storage building for fire equipment. Since we are located in a rented facility their hands are tied.



No tort claims were filed in association with our burning. That was assuring since the year before the Service paid on a frivolous one when a rural homeowner left a window open in their home two days after a burn. We paid to do their spring-cleaning.

b. Evaluation

Monitoring of the effects of our burning is part of our overall monitoring associated with management. We have begun taking before and after photos on select burns to document conditions before and the effectiveness of the burn. Jeff completed a fire management plan.

We rarely ever consume ground level duff and very rarely burn into the duff during prescribed burning. Jeff conducted research on the Bittern, Mallard, and Teal unit burns (15 January) regarding the effectiveness of duff removal. Conditions were taken from the burn area prior to the burn (See Fire_ Field_Notes_From_Funk_Bittern_And_Teal_Unit_Burns.doc). Humidity was measured in standing cattails one inch above ground, blow-down cattails one inch above ground, and at chest level outside the burn area. The burned, blow-down cattail area had the same humidity as outside the burn area. The standing cattails had 17 % higher humidity than outside the burn area. Fine fuel moisture was measured at 12-15% and fuel brittleness indicated a definite difference at 0-6", 6-12", and 12-24" with the standing cattails appearing much less brittle.


Duff layer remaining after a burn


Long-residency burn reduced 6" of duff to ash

Results indicate that humidity levels outside the burn area should be below 40% (<20% is ideal) and air temperatures should be above 60^{o}F with sunny exposure. Subsurface layers (0-6" deep) should

not be frozen and organic material should not stick to your fingers. Ignition sequence should allow maximum flame residency on areas with particularly heavy accumulations of duff.

Even if ideal conditions occur during the burn, it is likely that the above and below-ground duff layer will not burn. Therefore, a second burn was tested. It worked well in most areas assuming soil moistures did not increase significantly. The first burn removed the shading effect allowing the sun to dry the remaining duff. Second burning requires additional time but containment is easy.

10. Pest Control

The summer of 2004 proved to be the best year we have had for controlling musk and Canada thistle in a long time, due to ideal conditions. Little spring moisture and a dry, cooler than average summer set the stage for poor growing seasons for both musk thistle and Canada thistle plants. The plants did not seem to produce as many heads and the ones that did had little chance to produce any viable seed. In a typical year, one pass over every WPA is required followed by a second pass on the worst areas. Occasionally a third pass is required on the trouble areas. The logistics of traveling to 61 units in 13 Counties is very time consuming, even if you don't end up finding weeds on most sites. This year, the staff was able to cover the areas very thoroughly on the first and second visits enabling them to spend sufficient time on the trouble areas. Only a few complaints were received and in all cases we had either already chopped/treated the site prior to receiving the call or got there within a day.

Our pest management program continues to evolve and improve. Record keeping, mapping, committed staff, willingness to experiment, and spending more time and energy make all of this possible. Nearly all weed infestations are now small and isolated and eradication on many sites has occurred or is within reach. Funk and Johnson however, continue to be our biggest problems. Talking to neighbors and adjacent landowners while on the areas throughout the spring, summer, and fall lets them know that we are out there trying to improve the habitat and control noxious weeds.

We have implemented an educational program that the staff participates in each year. Training includes use of personal protective equipment, transportation of chemicals, proper mixing rates, storage of herbicides, emergency response, and how to properly record and map areas sprayed. We also spend time using identification guides and herbarium mounts to correctly identify noxious weeds and their look-a-likes as well as the recommended treatment. This has resulted in an improvement in the use of herbicides and early detection of weed infestations as well as no accidents or injuries.

Availability of water for mixing herbicide is a challenge that we continue to improve upon. We set up two vehicles with 1,000-gallon water tanks. Two more boom sprayers were purchased this fall. One sprayer is a 100-gallon boomless sprayer that will fit the smaller utility tractors. The second is a 500-gallon boomless sprayer, which was special ordered for the John Deere 8400 T (track) tractor. It will enable us to in wetter soils and cover a much greater area more efficiently, with fewer personnel.

The Fish and Wildlife Service did not approve the herbicide known as Pathway for use. Instead, a glyphosate stump treatment was used.

a. Pesticide Applications

Below is a summary of pesticides applied in 2004. A detailed table can be found in the attached CD in the file named: IPM_Report_2004_Rainwater_Basin_WMD.xls

Pesticide	Pest Species	Habitat Type	Acres Treated	Total Pounds of AI or AE Applied	Level of Control Obtained (%)	Chemical Costs (Service Costs Only)
Amine 4 2-4D	Thistles (musk, Canada, bull), crown vetch	Grassland	400	700	70	$1,593
Rodeo	Canada thistle, purple loosestrife, phramites	Wetland	-	-	-	
Roundup Pro (broadcast)	Canada thistle, leafy spurge, reed canary grass, smooth brome	Grassland	711	800	65	$8,150
Roundup Pro (stump)	fresh cut trees	Grassland		18	95	
Curtail	Thistles (musk, Canada, bull), crown vetch	Grassland	3312	1001	75	$7,877
Spike 20P	tree stumps	Grassland	-	-	-	
Plateau	leafy spurge	Grassland	100	2	80	$277
Transline	Thistles (musk, Canada, bull), crown vetch	Grassland	-	-	-	
Arsenal	fresh cut trees	Grassland			95	$1,347
Totals						**$19,244**

An extensive weed report (2004_Weed_Management_Report.doc) identifying activity and species associated with individual WPAs is stored on the CD attached with this narrative.

11. Water Rights

We continue to make payment of water contracts that were transferred with the purchase of the properties from private ownership to federal ownership. The existing water contracts are canceled, but remain in effect for 10 years past cancellation date. The first group, located on Funk WPA was canceled in the late 1990's. In about 2003, the remaining contracts were canceled, primarily because two additional wells were available on Funk and the delivery of water was not working to the benefit of our needs. In 2004, the contract on Linder WPA was transferred because Central Nebraska Irrigation and Public Power District found an irrigator who was willing to take over the contract. The table below shows the remaining contracts, the amount available, and the amount used, which was none in 2004.

WPA Unit	Contract acres	Acre-feet Available	Delivered
Funk NE Unit #6170102	39.0	58.5	0
Funk	177.0	265.5	0
Funk NW #6171006	49.0	73.5	0
Funk Mallard Unit #6171101	66.0	99.0	0
Funk -S #6171605	80.0	120.0	0
Funk Teal #6171606	57.0	85.5	0
Funk Total	**468.0**	**702.0**	**0**

WPA Unit	Contract acres	Acre-feet Available	Delivered
Victor Lakes #7210105	10.0	15.0	0
Victor Lakes #7211203	30.0	45.0	0
Victor Lakes Total	**40.0**	**60.0**	**0**
Grand Totals	**582.0**	**873.0**	**0**

The low water levels in Lake McConaughy forced Central Irrigation and Public Power District to offer to purchase back some water delivery contracts for 2004. We participated in that and had about $6000 worth of contracts purchased. In the fall, they notified water users that they had changed their policy and would allow (in 2005 only) for water users to transfer their water to another user with the approval of Central. They also announced that each user would only receive about half their normal allotment. And, the normal six delivery times during the growing season would be cut back to four, with the first and last deliver being canceled. That means if we wished to receive any of our contract water we would have to take it about the middle of August. To date, more irrigators are trying to sell their 2005 allotment that there are buyers. CNIPPD's newsletter (See CNIPPD_Newsletter.pdf) describes state water rights and water concerns on the Platte River.

12. Wilderness and Special Areas

Our station does not have a wilderness area located in a sea of corn and soybeans. One special area we do have is the Platte River Wildlife Management Area located two miles south and east of Kearney. The property is owned by the state of Wyoming. There is a management agreement in place between the Service and Wyoming authorizing the Service to manage the area for wildlife. It is an interesting arrangement with the Service providing this free service to Wyoming for the benefit of the people in Nebraska.

Wyoming property with south unit burned (top of photo)

13. WPA Easement Monitoring

No WPA easements exist within the District. This office enforces thirty-eight FmHA easements. No violations were found in 2004.

G. WILDLIFE

1. Wildlife Diversity

Progress is being made with increases in wildlife diversity found on refuge lands within the District. In recent years, we have seen an increase in the number of sharp-tail and prairie chickens on WPAs. Hultine and Qaudhamer are the most recent ones having sharp-tail grouse. Hultine also has an active prairie dog town. The prairie dog town re-established on McMurtrey is expanding rapidly, making us start to think how we may be able to keep it under control.

2. Endangered and/or Threatened Species

A total of eleven whooping cranes were spotted in Nebraska this fall. Six used the Platte River on a portion of the river downstream of Grand Island. The remaining five were seen on Hagen Lake in Brown County.

3. Waterfowl

Aerial habitat assessment flights occurred on 6 and 11 March, 7 July this year. The general flight pattern was flying the Platter River upstream to Lexington, then south and back east across the RWB hitting all of the study sights, then back to the Platte River by Grand Island while heading back to Kearney. Basin conditions and light goose flock locations were recorded. Aerial photographs were taken to document habitat conditions at that time. The photos were used later to correct habitat estimates.

Light geese started showing up mid-February again this year but below freezing temperatures pushed the birds into the Platte River Valley. Wetlands stayed frozen through the first week of March. The 6 March habitat flight indicated 68% of the surveyed wetlands remained frozen. A total of 181,104 light geese were observed with only 7,190 of these observed in the RWB area, the rest were using the Platte River. By 11 March most of the wetland had some open water and the bird numbers started to build in the RWB area with 162,046 light geese. The Platte River had 539,331 light geese.

4. Marsh and Water Birds

Jeff assisted with the coordinated spring survey of mid-continent sandhill cranes. Data from 2003 and 2004 were compared by combining transects—creating four segments within the surveyed area (See 2004_SHC_Survey). Transects 1-9 (GI area), Transects 10-22 (GI to Hwy 10), Transects 23-44 (Hwy 10 to Lexington), and Transects 45-54 (North Platte area). The one-year trend data shows that the GI area had a +6% increase, the GI to Hwy 10 had a +54% increase, the Hwy 10 to Lexington had a -11% decrease, and the North Platte area had a +26% increase. The trend data indicates a 31% increase from 2003 data.

5. Shorebirds, Gulls, Terns and Allied Species

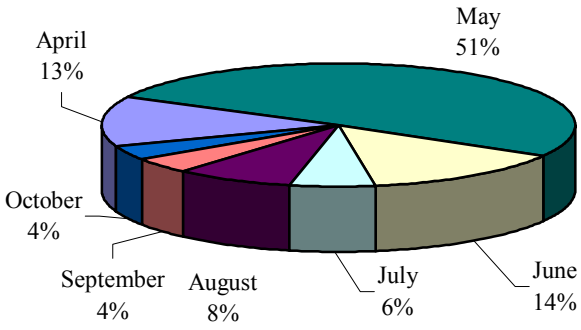
The West District was very dry this year, even timely rains in the spring and early summer ponded very little water. The Funk shorebird survey found very few shorebirds, mainly due to the fact that Funk had less than two acres of water available the entire summer (See Funk_Long_Term_Survey.xls). During June and most of July Funk was completely dry and no shorebird surveys were completed.


Buff-breasted sandpiper

White-rumped sandpipers peaked on 3 June with 2,341 observed. This may not seem like many but this count would be 18th on the all time highest concentrations list (Skagen et al 1999). The total shorebirds counted in the East District for 2004 was 7,471 (see East_ISS_Long_Term_Data.xls). Buff-breasted sandpiper and black-necked stilt use wetlands in the District and are listed in the "High Priority Shorebirds" list identified in the Shorebird Conservation Plan.

The figure below shows the percentage of shorebird use, by month, within the District.

RWB East District Shorebird Survey
2000-2004



6. Raptors

Jeff initiated a raptor survey this year. Counts were done during the East District Shorebird Survey. All raptors that are visible along the route were counted. Data is not compiled at this time.

7. Other Migratory Birds

8. Game Mammals

9. Marine Mammals

10. Other Resident Wildlife

11. Fisheries Resources

12. Wildlife Propagation and Stocking

13. Surplus Animal Disposal

14. Scientific Collections

15. Animal Control

16. Marking and Banding

17. Disease Prevention and Control

b. Cholera

The first cholera pick-up occurred on 2 March. Cholera mortality was minimal with a total of 142 birds picked up on seven WPAs that were monitored (See Waterfowl_Mortality.xls). Hunting appears to have an inverse relationship with cholera mortality, regardless if the basins were open or closed to hunting.

c. Chronic Wasting Disease

Chronic Wasting Disease may be a threat in the District sooner than expected. The Nebraska Game and Parks Commission have completed the testing of 5,735 samples collected during the November 2004 firearm season for deer. They found an additional 29 animals positive for CWD. Most of these were in the Panhandle, however, one was in Hall County near Grand Island and one in Arthur County near the town of Arthur. These two represent an eastward movement of the disease

H. PUBLIC USE

1. General

Melvie Uhland from the Regional Office did a visitor services review (See Visitor_Services_Review.doc). It was no surprise to us that her report identified many action items. Without an outdoor recreation planner and funding, there is little that can be done. Three of the action items identified were: Hire an outdoor recreation planner; Develop a visitor services plan; and Build a new headquarters and visitor center.

Much of the outreach our staff does with the public is in the form of technical assistance. That is providing information to help neighboring landowners and agencies make management decisions on their lands. Our Private Lands staff is involved in this on a daily basis.

As a station, we capitalize on opportunities to inform people about land management. Various staff has given formal presentations. They are listed in the table below.

Subject	Audience	Presenter
Methods and Data Relevant to the RWBJV Annual Habitat Survey	Association of State Wetland Managers	Andy
Methods and Data Relevant to the Nebraska Partnership for All-Bird Coalition.	NGPC Wildlife Section Meeting	Andy
Biological Foundation for RWBJV	Joint Venture Science Seminar	Andy
The Development and Integration of GIS in Vegetation Mapping at RWB.	Regional Office Managerial Staff	Andy
The Ecology of the Nebraska Sandhills	NCTC Partnership Roundtable Workshop	Gene
5-Day Workshop on Partnership Building	NCTC Partnership Roundtable Workshop	Gene
Management of Waterfowl Production Areas	Nebraska Sportsmen Coalition Phelps County Commissioners	Gene
Hunter Safety	15 kids	Steve
Sandhills Task Force	Nebraska Environmental Trust and state senators	Gene
Land management activities by our station	Annual banquet of Rocky Mountain Arsenal Wildlife Society	Gene
Land management practices by our station	Audubon Society members	Steve

Subject	Audience	Presenter
Workshop on applying GIS	College student from various colleges	Andy
Application of GIS within the RWB	JV management board, Regional Office, and other groups	
Wildlife management practices	Valentine High School wildlife class	Kyle
S-230 Engine Boss-Crew Boss training	FWS staff from various locations	Bruce
Use of Rainwater Basin Information System	FWS Regional Office staff	Mindy
Application of GIS in land management decisions	NCTC class	Andy

Several people from our station were detailed for four days to assist Boyer Chute NWR with their Lewis and Clark Centennial celebration. It was a large event that attraction thousands of people to Ft. Calhoun and to the refuge itself. Our staff assisted with fire prevention, law enforcement, and visitor services.

Some of the FWS personnel from various stations that assisted Boyer Chute NWR during the Lewis & Clark celebration

2. Outdoor Classrooms - Students

3. Outdoor Classrooms - Teachers

4. Interpretive Foot Trails

Work has been done on developing a foot trail through Funk WPA. For FY2005, funding will be provided to establish interpretive foot trails, pull-off along the county road, and interpretive displays on the Peterson Unit. Concrete bases and all-weather interpretive signs were placed on the trial between the parking lot and the handicap blind on Funk WPA.

5. Interpretive Tour Routes

6. Interpretive Exhibits/Demonstrations

7. Other Interpretive Programs

8. Hunting

The NGPC recommended the Light Goose Conservation Action continue with current guidelines through 2005 (see NGPC_LSGO_CO_RWB.doc). Hunting for light geese was allowed 4 February through 18 April. Hunting within the RWB area was allowed in both Zone 1 (East District) and Zone 2 (West District) again this year. In Zone 2, the NGPC continued to use the ½ mile no-hunt zone buffer

along the active channels through 10 March, and then expanded the no-hunt zone to 5 miles from the channel 11 March - April 18. Zone 1 allowed hunting within ½ mile of the outer channel of the Platte River throughout the Conservation Action season. The public areas closed to hunting remained the same in the East District (Massie, Hultine, Springer, Wilkins, Pintail WMA, Verona, Bluebill, Eckhardt, Nelson, Kirkpatrick WMA, Swan Creek WMA, and Swan Lake NRD) and the West District (Funk, Prairie Dog, Bluestem, Lindau, and Clark).

Temperatures were conducive to allow light geese to stage in Nebraska sooner than in 2003. Light geese began arriving on or around 23 February and substantial numbers of light geese continued to stage until approximately 6-7 March. Beginning soon after 8 March, conditions warmed sufficiently enough for migration out of Nebraska. Individual birds may have stayed as long as two weeks this year.

According to the NGPC (see NGPC LSGP_CO_RWB.doc), light goose hunting opportunities were similar or slightly above that in 2003. Early arrival appears to be the first factor for increased harvest. Hunters harvested similar numbers as in past years with similar arrival dates. However, with improved habitat conditions in eastern Nebraska and eastern RWB, more light geese probably were accessible to participants. Nebraska had 41,858 HIP registrations during the 2003-2004 time period (1 August 2003 – April 18, 2004), with 941 people registering after 4 February. Nebraska residents (n = 36,564) comprised approximately 87% of the HIP registrants.

NGPC estimated participation and harvest in the 2004 LGCA in Nebraska were 50,574 man-days and 138,012 birds for 12,886 participants. This was a 66% increase of participants and 88% increased in man-days from 2003. Hunter participation in the RWB appeared to have tapered off (See table below). Harvest in 2004 also increased by approximately 58% from that in 2003 (n = 87,585). Non-residents only accounted for approximately 11% of the harvest in the 2004 LGCA. Just over half (51%) of the harvest in the 2004 LGCA was in Zone 3 (See table below). Harvest from Zone 1 was the lowest except for 2002 (Table 2). Zone 2 harvest in 2004 was similar to that in 2000 and 2002. Also, a greater number of respondents indicated they harvested more than 20 geese per day since 2000—indicating a portion of the hunters are figuring out ways to maximize daily harvest.

Estimated mean days participated and harvest by participants categorized by the participating zones during the 2004 Nebraska Light Goose Conservation Action (NGPC 2004).

Zone	*N*	% of Participants*	Mean Days	Mean Harvest
Zone 1 only	152	32	3.0	17.0
Zone 2 only	54	11	3.3	16.9
Zone 3 only	210	44	4.4	17.1
Zones 1 & 2	11	2	4.2	22.1
Zones 1 & 3	31	7	7.8	28.3
Zones 2 & 3	7	2	5.4	19.9
All Zones	8	2	6.0	17.8

*Three respondents did not indicate zone of participation or harvest.

Estimated percent total harvest by zone during the regular hunting season and Light Goose Conservation Action in Nebraska, Feb-Apr, 1999-2004 (NGPC 2004).

Year	Zone 1	Zone 2	Zone 3
1999*	51%	Closed	49%
2000*	42%	14%	44%
2001	45%	Closed	55%
2002	22%	12%	66%
2003	50%	Closed	50%
2004	36%	13%	51%

*A regular hunting season was held from 11 Feb. - 10 Mar. 1999 and 2 Feb. - 10 Mar. 2000.

"No Hunting Prairie Dogs" signs were installed at Hultine, Atlanta, and Prairie Dog WPAs.

9. Fishing

10. Trapping

11. Wildlife Observation

Unfortunately, our long-term casual wildlife observation data was lost this year. General wildlife observation notes were still documented. General observation trends for grassland birds appear to be rising. Prairie chicken, bobolink, grasshopper sparrows, and short-eared owl observations appear to be more frequent and occur on more areas each year. Notable 2004 wildlife observations include:

- Killdeer chicks observed as early as 29 April this year,
- Forty-four sandhill cranes observed at Harvard WPA on 13 April,
- A Peregrine Falcon on Harvard WPA 21 May,
- A Red-necked phalarope on Griess WPA,
- Rough-winged swallows were very abundant 27 July and continued being abundant until 20 August, and
- On 18 August, 16 buff-breasted sandpipers observed on the MARC just south of the McMurtrey WPA boundary.

12. Other Wildlife Oriented Recreation

13. Camping

14. Picnicking

15. Off-Road Vehicling

16. Other Non-Wildlife Oriented Recreation

17. Law Enforcement

The city of Hastings had removed domesticated mallards from a city park and relocated them to Harvard WPA. Steve and Jeff removed domesticated waterfowl from Harvard WPA. See Lethal_ Removal_Tame_Domesticated_Ducks_Harvard_WPA.doc for further information.

An unusual situation occurred this last spring. A new owner to property immediately north of Hannon WPA notified us that we had fenced part of his property into the WPA. He has a long-held reputation of dislike for the Fish and Wildlife Service. He told us we had two weeks to get the fence off his property, to remove trees in the fenceline, and prepare his ground for planting. He also informed us that he was going to charge us rent for the land he was not able to farm. Gene and Tom went out to check the boundary markers and the location of the north fenceline. It turned out that in the early 1990's when Hannon was obtained, it was surveyed and marked by the Service. Our staff somehow got off-kilter and fenced about 15 feet of the neighbor's land at the west end of the quarter section.

Boundary dispute on Hannon WPA

Gene contacted the new owner and asked him to meet at the site to discuss the problem. To make a long story short: over a period of one week we went from being demanded to pay for lost production to him voluntarily giving up 15 feet along the whole boundary for us to use for the entire summer—to give us plenty of time to get the fence removed. This was so out of character for this individual that it spooked our office and we diverted the entire staff to fence and tree removal and had it done in one day. When Gene called the new owner up to notify him that the fence was removed, he thanked Gene and stated that he was still going to leave 15 feet unplanted just in case we needed access for the summer. To this day, we cannot explain the temporary conversion, because he still continues his campaign against waterfowl concentrations and the Fish and Wildlife Service.

18. Cooperating Associations

19. Concessions

I. EQUIPMENT AND FACILITIES

1. New Construction

A hot water heater, toilet and washbasin were installed at the Cottonwood facility.

We continue to chase every lead on trying to figure out how we can get a new headquarters building. We are maxed out on office space. The Regional Office asked if we would be willing to house the new zone law enforcement officer. We had to decline because we have no space for another desk.

Crowded meeting room, complete with no windows or ventilation

2. Rehabilitation

3. Major Maintenance

4. Equipment Utilization and Replacement

- 2004 supercrew F-150 pickup
- 110-gallon boomless sprayer
- 500-gallon boomless sprayer

- 16-ft by 8.5-ft ATV trailer
- Honda 450 ATV

5. Communications Systems

6. Computer Systems

Five new computers were purchased to bring all of our computers up to the standards required by the Regional Office for security and networking.

7. Energy Conservation

We ordered our first hybrid vehicle. It is a Ford 4x4 Escape. It will be used by Mindy for the Private Lands Program.

8. Other

J. OTHER ITEMS

1. Cooperative Programs

2. Other Economic Uses

3. Items of Interest

4. Credits